

March 17, 2000

Mark C. Kleis  
Praxair Surface Technologies, Inc.  
1500 Polco Street  
Indianapolis, Indiana 46224

Re: Exempt Operation Status,  
**E 097-11964-00060**

Dear Mr. Mark C. Kleis:

The permit application from Indianapolis Praxair Surface Technologies, Inc., received on January 12, 2000 has been reviewed. Based on the data submitted and the new provisions in IAPCB Regulation 2 (Permits - Section 1-1) and state regulation 326 IAC 2-1.1-3 (Exemptions), it has been determined that the following piece of equipment, to be located at 1555 Main Street, Indianapolis, Indiana, 46224 is classified as exempt from air pollution permit requirements:

**Specialty Powders Manufacturing**

Five (5) Specialty Powders Manufacturing process lines, identified as Emission Units (in the table below), each controlled by an integral baghouse and HEPA filters, identified as Controls (in the table below), exhausting indoors through Stack/Vents (identified in the below).

No.	Emission Unit	Control	Stack/Vent
1	EUP32	P32A & P32B	P32A & P32B
2	EUS33	040 & 044	S33 & S33
3	EUS34	041	S-34
4	EUS35	042	S35
5	EUS36	043	S36

The following conditions shall be applicable:

1. Pursuant to IAPCB Regulation 5-1-2 (Smoke and Other Visible Emissions) and 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
  - (a) visible emissions shall not exceed an average of 30% opacity in 24 consecutive readings.
  - (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.
2. Pursuant to 326 IAC 6-1-2 (Particulate Limitations; Specified), Particulate Matter (PM) emissions from each of facilities comprising the five (5) Specialty Powders Manufacturing process lines at 1555 Main Street shall be limited to no greater than 0.03 grain per dry standard cubic foot of exhaust.

3. Pursuant to IAPCB Regulation 2-6 (Annual emission statement rule) and state regulation 326 IAC 2-6 (Emission Reporting), an authorized individual shall provide an annual emission statement to the Environmental Resources Management Division and the Office of Air Management at the addresses listed below no later than April 15 of each year.

Technical Support and Modeling  
Office of Air Management  
1000 North Senate Avenue  
P.O. Box 6015  
Indianapolis, IN 46206-6015  
and  
Environmental Resource Management Division  
Air Quality Management Division  
2700 South Belmont

Any change or modification, of the equipment listed above, which may increase the potential emissions above the thresholds listed in 326 IAC 2-1 must be approved by the Environmental Resources Management Division (ERMD) before such change may occur. If you have any questions, please contact Monica Dick at 327-2512.

Sincerely,

Robert F. Holm, Ph.D  
Administrator

MD

cc: Mark Caraher, Permits Program Manager  
Matt Mosier, Compliance Program Manager  
Cheryl Carlson, Enforcement Program Manager  
Rick Martin, Air Planning Manager  
Mindy Hahn, IDEM  
Gail McGarrity, IDEM

**Indianapolis Environmental Resources Management Division  
Air Quality Management Section**

and

**Indiana Department of Environmental Management  
Office of Air Management**

Technical Support Document (TSD) for an Exempted Unit

**Source Background and Description**

Source Name:	Praxair Surface Technologies, Inc.
Source Location:	1555 Main Street, Indianapolis, Indiana 46224
County:	Marion
Construction Permit No.:	097-11964-00060
SIC Code:	3999
Permit Reviewer:	Monica Dick

The Environmental Resources Management Division (ERMD) has reviewed an application from Praxair Surface Technologies, Inc. relating to the construction and operation of following equipment:

Five (5) Specialty Powders Manufacturing process lines, identified as Emission Units (in the table below), each controlled by an integral baghouse and HEPA filters, identified as Controls (in the table below), exhausting indoors through Stack/Vents (identified in the below).

No.	Emission Unit	Control	Stack/Vent
1	EUP32	P32A & P32B	P32A & P32B
2	EUS33	040 & 044	S33 & S33
3	EUS34	041	S-34
4	EUS35	042	S35
5	EUS36	043	S36

### **Air Pollution Control Justification as an Integral Part of the Process**

The company has submitted the following justification such that the air pollution control equipment, baghouses and HEPA filters be considered as an integral part of the specialty powders manufacturing process:

- (1) The control equipment has an overwhelming positive net economic effect - control equipment, such as a product recovery device, whose total cost of installation, operation and maintenance is far less than the net savings that the source enjoys from recovering otherwise lost product.

The powders that Praxair Surface Technologies manufactures range in values up to \$16 - \$20 per pound. The control equipment they use is integral to the process because for financial reasons they need to capture any emissions. Praxair keeps records on the amount of product they start with and end with, accounting has a stake in making sure the production process is efficient. They reintroduce the product that has been captured back into the production process. Praxair has an elaborate baghouse and pneumatic conveying system that collects emissions and vents indoors 24 hours a day. In addition, the ambient air has always met OSHA's requirements.

- (2) The control equipment serves a primary purpose other than pollution control - the control equipment will have to serve as a fundamental component in another process or operation.

The control equipment provides good business practices. Production can be streamlined and exist in the same environment. In specialty powder manufacturing it is paramount that the individual products do not mix and cause cross contamination. Cross contamination in the process would compromise the end product. Without the collection equipment, additional work would be needed to separate the products. There would not be a way to rid the products of low level contamination. The more pure the product the higher the price and the increase in sales.

Two separate specialty powder manufacturing processes operate side by side with out threat of cross contamination because of the system that is in place. Cross contamination is prevented due to the pneumatic conveying and baghouse-HEPA capture system. The control equipment functions in a way that keeps the product confined to its particular production process.

IDEM, OAM and ERMD have evaluated the justifications and agreed that the baghouses and HEPA filters will be considered as an integral part of the specialty powders manufacturing process. Therefore, the permitting level will be determined using the potential to emit after the baghouses and HEPA filters. Operating conditions in the proposed permit will specify that these baghouses and HEPA filters shall operate at all times when the specialty powders manufacturing process is in operation.

## Recommendation

The staff recommends to the Administrator that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 12, 2000.

## Emissions Calculations

See TSD Appendix A for detailed calculations.

## Potential Emissions

Pollutant	Potential Emissions (tons/year)
Particulate Matter (PM)	1.27E-05
Particulate Matter (PM10)	1.27E-05
Sulfur Dioxide (SO <sub>2</sub> )	< 0.0E-05
Volatile Organic Compounds (VOC)	< 0.0E-05
Carbon Monoxide (CO)	< 0.0E-05
Nitrogen Oxides (NO <sub>x</sub> )	< 0.0E-05
Chromium Compounds	1.07E-05
Cobalt Compounds	1.09E-05
Nickel Compounds	1.12E-05
Combination of HAPs	3.3E-05

Potential emissions (as defined in the Indiana Rule 326 IAC 1-2-55) of any regulated pollutants are less than any criteria pollutant threshold, in tons per year, as stated in 326 IAC 2-1.1-3(d)(1) (Exemptions).

Therefore, pursuant to the provisions in Indianapolis Air Pollution Control Board Regulation 2 Permits and 326 IAC 2-1, this source is classified as exempt from air pollution permit requirements.

## County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Marion County has been classified as attainment or unclassifiable for PM10, SO<sub>2</sub>, NO<sub>x</sub> and CO. Therefore, these emissions were reviewed pursuant to the requirements for

Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions

Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/or as otherwise limited).

Pollutant	Actual Emissions (ton/yr)
PM	<100
PM10	<100
SO <sub>2</sub>	<100
VOC	<100
CO	<100
NO <sub>x</sub>	<100

This Source is limited to less than 100 tons per year of criteria pollutant and is therefore not a major stationary source because no regulated pollutant is emitted at a rate of 100 tons per year, and it is not in one of the 28 listed Source categories.

### Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new Facility and the existing Source as a whole, is not subject to the Part 70 Permit requirements because they have requested a Federally Enforceable Source Operating Permit to limit their potential to emit (PTE) to:

- (a) less than 100 tons per year of each criteria pollutant
- (b) less than 10 tons per year of a single hazardous air pollutant (HAP), and
- (c) less than 25 tons/year of any combination of HAPs.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

### **State and Local Rule Applicability**

#### **326 IAC 5 (Opacity Regulations)**

Pursuant IAPCB Regulation 2 (Permits) and 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:

- (a) visible emissions shall not exceed an average of thirty percent (30%) opacity in 24 consecutive readings.
- (b) visible emissions shall not exceed sixty percent (60%) opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

#### **326 IAC 6-1-2 (Particulate Matter Emission limitations)**

Pursuant to 326 IAC 6-1-2 (Nonattainment Area Particulate Limitations; Specified), Particulate Matter (PM) emissions from each of facilities comprising the five (5) Specialty Powders Manufacturing process lines at 1555 Main Street shall be limited to no greater than 0.03 grain per dry standard cubic foot of exhaust.

### **Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Environmental Resources Management Division (ERMD) Construction Permit Application Form Y.

### **Conclusion**

The five (5) Specialty Powders Manufacturing process lines are to be exempted and shall be subject to the attached proposed exemption.

**Specialty Powder Manufacturing**

Praxair Surface Technologies, Inc.

1555 Main Street, Indianapolis, IN 46224

01/26/2000

EU	Control ID	Control efficiency	HEPA efficiency	throughput (pounds/hr )	amount produced (lbs/hr)	amount collected (lbs/hr)	Potential emissions after controls in lbs/hr	Potential emissions after controls in tons/yr	44% Nickel emissions	32% Cobalt emissions	24% Chromium emissions	Integral yes/no
EUP32A	EUP32A	0.995	0.99999	750	745	4.97	3.00E-07	1.31E-06	5.78E-07	4.20E-07	3.15E-07	yes
EUP32B	EUP32B	0.995	0.99999	750	745	4.97	3.00E-07	1.31E-06	5.78E-07	4.20E-07	3.15E-07	yes
EUS33	040	0.995	0.99999	3000	2995.02	4.96	2.00E-07	8.76E-07	8.76E-07	8.76E-07	8.76E-07	yes
EUS34	041	0.995	0.99999	2500	2475	24.87	1.30E-06	5.69E-06	5.69E-06	5.69E-06	5.69E-06	yes
EUS35	042	0.995	0.99999	750	746.25	3.73	2.00E-07	8.76E-07	8.76E-07	8.76E-07	8.76E-07	yes
EUS36	043	0.995	0.99999	1500	1492.5	7.46	4.00E-07	1.75E-06	1.75E-06	1.75E-06	1.75E-06	yes
EUS33	044	0.995	0.99999	3000	2995.02	4.96	2.00E-07	8.76E-07	8.76E-07	8.76E-07	8.76E-07	yes
<b>Total:</b>							2.90E-06	1.27E-05	1.12E-05	1.09E-05	1.07E-05	

Potential emissions = actual amount exhausting thorough stack to be controlled by HEPAs  
 (throughput - amt. produced - amt. collected)\*(1- cntrl eff.) = potential emissions